

In re Appln. of: Carl J. G. Evertsz
Appln. No.: 09/870,388
Attorney docket: 739-X01-004

Claim listing

Claims 1 to 16 (cancelled)

17. (New) A radiological workstation for providing in-service monitoring and training, quality assurance and quality control for screening of medical images comprising:
- (a) a computer having
 - i. a user interface in which a user profile can be stored;
 - ii. a workflow memory in which a workflow in the form of a case stack can be stored including a pointer for pointing to the current case being reviewed;
 - iii. an image selection module coupled to the workflow memory containing a program, a pseudo-random number generator, a retrieval program module for retrieving image data from a first database, and an infiltration program module for retrieving image data from a second database;
 - iv. a session preparation module coupled to the image selection module for specifying data from the first database to be screened, for initializing the case stack, and for selecting and inputting data from the second database into the case stack including specifying an absolute number or percentage of known cases of different categories and/or subcategories to be input;
 - v. a display module coupled to the image selection module for displaying a current image on a monitor;
 - vi. a third database stored in memory, a first portion of which contains a user action database for tracing user actions that are input via the user interface, for recording rules, and for generating a user action report in accordance with the recorded rules, and a second portion of which contains a diagnosis database for recording diagnoses and/or annotations being input by a radiologist via the user interface;
 - (b) a first database comprised of a first image memory archive of cases to be reviewed, each case composed of a preselected plurality of images classifiable into preselected categories and subcategories, each case having a unique case identifier, said first

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database coupled to said retrieval program module of said image selection module of the computer;

(c) a second database comprised of a second image memory archive of known cases coupled to the infiltration program module of the computer, said known cases composed of a preselected plurality of images of known proven positive and/or known proven normal cases, within said plurality of preselected categories and subcategories, each said case having a unique case identifier;

(d) a monitor for displaying images coupled to the display module of the computer for displaying a current image; and

(e) a keypad coupled to the user interface of the computer, said keypad including a "next step key", which when actuated instructs the user interface to step to the next image or case;

wherein a user via the session preparation module can preselect the operation of the radiological workstation for one of (1) training a radiologist using only known cases from the second database and (2) screening of real cases from the first database with a preselected number of known cases from the second database interspersed therein for monitoring and controlling a radiologist's attention.

18. (New) The computer system of claim 17 wherein the session preparation module enables specifying a category for images from the first database.

19. (New) The computer system of claim 17 wherein an instantaneous feedback to the user is provided if the diagnosis of the known case is incorrect.

20. (New) The computer system of claim 17 further comprising the step of selecting the case to be displayed based on a predefined fixed sequence.

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21. (New) The computer system of claim 17 wherein the session preparation module can specify an absolute number or percentage of known cases from the second database.
22. (New) A method for creating a radiological workstation for providing in-service monitoring and training, quality assurance and quality control for screening of medical images comprising the steps of:
- (a) creating a user interface in which a user profile can be stored;
 - (b) creating a workflow memory in which a workflow in the form of a case stack can be stored including a pointer for pointing to the current case being reviewed;
 - (c) creating an image selection module coupled to the workflow memory containing a program, a pseudo-random number generator, a retrieval program module for retrieving image data from a first database, and an infiltration program module for retrieving image data from a second database;
 - (d) creating a session preparation module coupled to the image selection module for specifying data from the first database to be screened, for initializing the case stack, and for selecting and inputting data from the second database into the case stack including specifying an absolute number or percentage of known cases of different categories and/or subcategories to be input;
 - (e) creating a display module coupled to the image selection module for displaying a current image on a monitor;
 - (f) creating a third database stored in memory, a first portion of which contains a user action database for tracing user actions that are input via the user interface, for recording rules, and for generating a user action report in accordance with the recorded rules, and a second portion of which contains a diagnosis database for recording diagnoses and/or annotations being input by a radiologist via the user interface;
 - (g) establishing a first database comprised of a first image memory archive of cases to be reviewed, each case composed of a preselected plurality of images classifiable into preselected categories and subcategories, each case having a unique case

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identifier, said first database coupled to said retrieval program module of said image selection module of the computer;

(h) establishing a second database comprised of a second image memory archive of known cases coupled to the infiltration program module of the computer, said known cases composed of a preselected plurality of images of known proven positive and/or known proven normal cases, within said plurality of preselected categories and subcategories, each said case having a unique case identifier;

(i) providing a monitor for displaying images coupled to the display module of the computer for displaying a current image; and

(j) providing a keypad coupled to the user interface of the computer, said keypad including a "next step key", which when actuated instructs the user interface to step to the next image or case;

wherein a user via the session preparation module can preselect the operation of the radiological workstation for one of (1) training a radiologist using only known cases from the second database and (2) screening of real cases from the first database with a preselected number of known cases from the second database interspersed therein for monitoring and controlling a radiologist's attention.

23. New) A computer program product stored on a computer usable medium, the computer program comprising program components for carrying out the method steps (a) through (f) of claim 22, when the program is run on a computer.